

WHAT IS CLAIMED IS:

1. A method of providing naming service to efficiently achieve various kinds of service in a distributed processing system having a plurality of nodes connected to one another and including a first node for providing name information, comprising the steps of:

accepting a name information retrieval request from a second node;

sending said name information retrieval request to a third node designated by a system definition, acquiring name information from said third node and storing said name information in a first cache; and

retrieving name information based on said retrieval request from a second cache of said first node and said first cache and sending said name information to said second node.

2. A method of providing naming service according to Claim 1, wherein said name information retrieval request is sent to other nodes belonging to a class to which said first node belongs, and to a specific node belonging to a class different from the class to which said first node belongs, so that said name information retrieval request is sent to predetermined classes in said distributed processing system.

3. A method of providing naming service

according to Claim 1, wherein when interruption of a service identified by said sent name information is detected and a request to delete said name information is sent, name information of nodes designated by the system definition are examined and name information corresponding to the examined name information is updated on said second cache or said first cache.

4. A method of providing naming service according to Claim 3, wherein data is sent to a node having said detected interruption of a service to inquire whether said node is operative or not, so that name information of said service is deleted in accordance with whether a reply is received from said node or not.

5. A method of providing naming service to efficiently achieve various kinds of service in a distributed processing system having a plurality of nodes connected to one another and including a first node for providing name information, comprising the steps of:

receiving name information of a state-changed service from a second node;

sending said name information received from said second node to a third node designated by a system definition;

reflecting said name information received from said second node in a first cache of said first node; and

retrieving name information requested by a fourth node from a second cache of said first node and said first cache and sending said name information to said fourth node when a name information retrieval request is received from said fourth node.

6. A method of providing naming service according to Claim 5, wherein said name information retrieval request is sent to other nodes belonging to a class to which said first node belongs, and to a specific node belonging to a class different from the class to which said first node belongs, so that said name information retrieval request is sent to predetermined classes in said distributed processing system.

7. A system of providing naming service to efficiently achieve various kinds of service in a distributed processing system having a plurality of nodes connected to one another and including a first node for providing name information, comprising:

- a retrieval request accepting portion for accepting a name information retrieval request from a second node;

- a retrieving portion for sending said name information retrieval request to a third node designated by a system definition, acquiring name information from said third node and storing said name information in a first cache; and

- a retrieval request replying portion for

retrieving name information based on said retrieval request from a second cache of said naming service providing system and said first cache and sending said name information back to said second node.

8. A system of providing naming service to efficiently achieve various kinds of service in a distributed processing system having a plurality of nodes connected to one another and including a first node for providing name information, comprising:

an advertisement accepting portion for receiving name information of a state-changed service from a second node and reflecting said received name information in a first cache of said first node;

an advertising portion for sending said name information of said state-changed service and name information received from said second node to a third node designated by a system definition;

a retrieval request accepting portion for accepting a name information retrieval request from a fourth node; and

a retrieval request replying portion for retrieving name information based on said retrieval request from a second cache of said naming service providing system and said first cache and sending said name information back to said fourth node.

9. A program executed by a computer to make said computer function as a system of providing naming service to efficiently achieve various kinds of service

in a distributed processing system having a plurality of nodes connected to one another and including a first node for providing name information, said naming service providing system comprising:

- a retrieval request accepting portion for accepting a name information retrieval request from a second node;

- a retrieving portion for sending said name information retrieval request to a third node designated by a system definition, acquiring name information from said third node and storing said name information in a first cache; and

- a retrieval request replying portion for retrieving name information based on said retrieval request from a second cache of said naming service providing system and said first cache and sending said name information back to said second node.

10. A naming service providing program executed by a computer to make said computer function as a system of providing naming service to efficiently achieve various kinds of service in a distributed processing system having a plurality of nodes connected to one another and including a first node for providing name information, said naming service providing system comprising:

- an advertisement accepting portion for receiving name information of a state-changed service from a second node and reflecting said received name

information in a first cache of said first node;

an advertising portion for sending said name information of said state-changed service and name information received from said second node to a third node designated by a system definition;

a retrieval request accepting portion for accepting a name information retrieval request from a fourth node; and

a retrieval request replying portion for retrieving name information based on said retrieval request from a second cache of said first node and said first cache and sending said name information back to said fourth node.

11. A naming service providing program executed by a computer to make said computer function as a system of providing naming service to efficiently achieve various kinds of service in a distributed processing system having a plurality of nodes connected to one another and including a first node for providing name information, said program comprising the steps of:

accepting a name information retrieval request from a second node;

sending said name information retrieval request to a third node designated by a system definition, acquiring name information from said third node and storing said name information in a first cache; and

retrieving name information based on said

retrieval request from a second cache of said first node and said first cache and sending said name information to said second node.

12. A naming service providing program according to Claim 11, wherein said name information retrieval request is sent to other nodes belonging to a class to which said first node belongs, and to a specific node belonging to a class different from the class to which said first node belongs, so that said name information retrieval request is sent to predetermined classes in said distributed processing system.

13. A naming service providing program according to Claim 11, further comprising the steps of:

examining name information of nodes designated by said system definition when interruption of service identified by said sent name information is detected and a request to delete said name information is sent; and

updating said name information corresponding to the examined name information on said second cache or said first cache.

14. A naming service providing program according to Claim 13, further comprising the steps of:

sending data to a node having said detected interruption of service to inquire whether said node is operative or not; and

deleting name information of said service in accordance with whether a reply is received from said

node or not.

15.           A naming service providing program according to Claim 10, further comprising the step of sending said name information to other nodes belonging to a class to which said first node belongs, and to a specific node belonging to a class different from the class to which said first node belongs, so that said name information is sent to predetermined classes in said distributed processing system.